

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application:

Claim 1 (currently amended): A method of detecting binding to or reaction with a selective material, the method comprising the steps of:

- a. providing a sensor comprising:
 - i. a diaphragm comprising a conductive portion, a first face, and a second face;
 - ii. a selective coating on the first face of the diaphragm;
 - iii. a counterelectrode spaced from and in opposition to the diaphragm; and
 - iv. ~~a means~~ perforations through the counterelectrode for equalizing a pressure on each of the first and second faces of the diaphragm, wherein the diaphragm is configured to deform upon interaction of the selective coating with an analyte and thereby alter a capacitance of the sensor; and
- b. measuring the capacitance of the sensor to determine a degree of interaction between the analyte and the selective coating.

Claim 2 (withdrawn): The method of claim 1 wherein the entire diaphragm is conductive.

Claim 3 (withdrawn): The method of claim 1 wherein the diaphragm is compositionally uniform.

Claim 4 (withdrawn): The method of claim 1 wherein the measurement step comprises comparing the sensor capacitance to a reference capacitance.

Claim 5 (withdrawn): The method of claim 4 wherein the reference capacitance is equal to a capacitance of the sensor in the absence of interaction with the selective coating.

Claim 6 (withdrawn): The method of claim 1 wherein the selective coating comprises a polypeptide.

Claim 7 (withdrawn): The method of claim 6 wherein the selective coating comprises an antibody.

Claim 8 (withdrawn): The method of claim 1 wherein the selective coating comprises an antigen.

Claim 9 (withdrawn): The method of claim 1 further comprising the step of exposing at least the selective coating to a fluid, the measurement step indicating whether an analyte that binds to the coating is present in the fluid.

Claim 10 (withdrawn): The method of claim 9 wherein the fluid comprises a gas.

Claim 11 (withdrawn): The method of claim 9 wherein the fluid comprises a liquid.

Claim 12 (withdrawn): The method of claim 1 wherein the deformation is proportional to a binding energy, which indicates a degree of binding.

Claim 13 (currently amended): A sensor comprising:

- a. a diaphragm comprising a conductive portion, a first face, and a second face;
- b. a selective coating on the first face of the diaphragm;
- c. a counterelectrode spaced from and in opposition to the diaphragm; and
- d. ~~a means~~ perforations through the counterelectrode for equalizing a pressure on each of the first and second faces of the diaphragm,

wherein the diaphragm is configured to deform upon interaction of the selective coating with an analyte and thereby alter a capacitance of the sensor so as to indicate a degree of interaction.

Claim 14 (original): The sensor of claim 13 wherein the entire diaphragm is conductive.

Claim 15 (original): The sensor of claim 13 wherein the diaphragm is compositionally uniform.

Claim 16 (original): The sensor of claim 13 wherein the selective coating covers only a portion of the first face of the diaphragm.

Claim 17 (cancelled)

Claim 18 (cancelled)

Claim 19 (original): The sensor of claim 13 wherein the coating covers a central half of the first face of the diaphragm.

Claim 20 (original): The sensor of claim 13 further comprising circuitry for reporting presence of the analyte.

Claim 21 (original): The sensor of claim 13 further comprising circuitry for reporting a concentration of the analyte.